

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

KAIFI LLC

Plaintiff,

v.

T-MOBILE US, INC. and
T-MOBILE USA, INC.,

T-Mobile.

Case No. 2:20-cv-281-JRG

JURY TRIAL DEMANDED

OPENING CLAIM CONSTRUCTION BRIEF BY KAIFI LLC

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Exhibit 2-D	“Mobile Agent Based Performance Management for the Virtual Home Environment,” C. Bohoris, G. Pavlou, and A. Liotta, Journal of Network and Systems Management, Vol. 11, No. 2, June 2003
Exhibit 2-E	3GPP Technical Specification 22.121 v4.0.0, “The Virtual Home Environment (Release 4),” October 2000
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Plaintiff KAIFI LLC (“KAIFI”) hereby submits its opening claim construction brief for U.S. Patent No. 6,922,728 (“’728 Patent”).

I. INTRODUCTION

The ’728 Patent provides an optimal internet network connecting and roaming system and method adapted for a user moving in and out of heterogeneous networks. The claimed invention enables automatic and uninterrupted switching of communication services between different network types, an indoor network (Wi-Fi) and an outdoor wireless internet network (cellular). By off-loading services from a higher cost cellular network to a lower cost Wi-Fi network in a seamless manner, T-Mobile save significant costs while providing the connectivity experience expected by their subscribers today.

The Court analyzed the ’728 Patent and construed most of the currently disputed terms in the context of its Claim Construction Order in the 2020 litigation between KAIFI and AT&T involving the same patent.¹ KAIFI respectfully requests that the Court adopt constructions in the current case that track the constructions for the same or similar terms already construed in the AT&T Case, where AT&T was represented by the same counsel that is currently representing T-Mobile. T-Mobile, on the other hand, would have the Court revise its prior constructions to improperly import limitations from the specification into the claims, contrary to well-established claim construction guidance from the Federal Circuit.

The lack of credibility of T-Mobile’s claim construction positions is clear from a simple review of the behavior of its expert during his deposition. In the AT&T Case, T-Mobile’s counsel agreed that the term “registered indoor system ID information” means “indoor system ID information for which the data communication terminal has been granted access.” *See* AT&T

¹ *KAIFI LLC v. AT&T Corp., et al.*; Case No. 2:19-cv-00138-JRG (the “AT&T Case”).

Case, Dkt. No. 104 at p. 7. T-Mobile now claims that the term requires no construction because a jury will know what “registered” means. But when asked to explain the meaning of that term, T-Mobile’s expert (at the prompting of his counsel) engaged in a bizarre act of gamesmanship in which he either could not or would not explain what the term meant:

- Q. You believe that registered has a plain and ordinary meaning, is that correct, in the patent?
- A. I’m stating that the meaning of the word “registered” would be readily understood and that the patent uses it in a way that would be readily understood.
- Q. Right. And what is that readily understood meaning?
- A. The readily understood meaning is the meaning by which people would understand that term.
- Q. Right. And I’m asking what that is. When it says registered indoor system ID information, what does a person ordinary of the skill in the art understand that to mean?
- A. The meaning is the one that would be commonly understood.
- Q. Right. And what is that commonly understood meaning?
- A. As I said, it’s a commonly understood meaning, and I give examples of that in my declaration.
- Q. So -- and what is that -- in the patent, what is that readily and commonly understood meaning?
- A. The meaning as I said, is one that would be commonly understood.
- Q. Yes. And what is that commonly understood meaning? That’s what I’m asking you.
- A. I don’t think it’s up to me to provide a dictionary definition of a common word.

See Declaration of Matthew Hawkinson In Support Of Opening Claim Construction Brief By

KAIFI LLC (“Hawkinson Decl.”) at ¶ 6, Ex. 1-E, Excerpted Deposition Transcript of Peter

Rysavy (“Rysavy Depo.”) at 71:8-72:16. The simple fact is that all of T-Mobile’s proposed constructions reflect this same pattern of unreasonableness.

II. BACKGROUND

The ’728 Patent is directed generally to the area of wireless mobile communications. KAIFI incorporates its Technical Tutorial lodged with the Court, as well as the background information supplied by KAIFI’s expert witness Mr. Thomas Blackburn, a declaration from whom is attached hereto. Mr. Blackburn has studied and practiced in the field of telecommunications, including, in particular, mobile, cellular, wireless technologies, Global Positioning System (“GPS”) technologies, wired technologies, networks, phones, standards, services, and systems for over thirty years. *See* Declaration of Thomas Blackburn In Support Of Opening Claim Construction Brief By KAIFI LLC (“Blackburn Decl.”) at ¶ 6. Based on this body of work, Mr. Blackburn has been awarded 37 U.S. and Foreign Patents, several related to cellular technologies. *Id.* at ¶ 13.

The inventor of the ’728 Patent is Professor Dong-Ho Cho (“Prof. Cho”). Hawkinson Decl. at ¶ 2, Ex. 1-A (the ’728 Patent) at 1. Prof. Cho is currently a professor in the School of Electrical Engineering at the Korea Advanced Institute of Science & Technology (“KAIST”), the original assignee of the ’728 Patent. *Id.* at ¶¶ 3-4, Exs. 1-B, 1-C (Prof. Cho’s CVs). KAIFI is an intellectual property consulting company that promotes and manages the intellectual property developed by Korean research institutes, such as KAIST, and the owner by assignment of Prof. Cho’s patent. *Id.* at ¶ 5, Ex. 1-D (’728 Patent Assignment to KAIFI).

The application for the ’728 Patent was filed on December 18, 2001 and claims priority to Korean Patent Application No. 2001-34976, filed on June 20, 2001. ’728 Patent at 1.

The genesis of the inventions disclosed and claimed in the '728 Patent was Prof. Cho's observation that internet service providers ("ISPs") and cellular service providers apply dramatically different pricing structures:

Meanwhile, the user of the wired LAN pays only fixed fees contracted with a relevant service provider, while the user of the wireless LAN must pay fees in proportion to the number of packets the user has sent and received through the connected internet. Furthermore, since the fees for connection with the internet through the wireless LAN are relatively high, the wired LAN is more economical than the wireless LAN on a monthly payment basis.

Therefore, there is a problem in that users of the wireless LAN inevitably take on heavier monetary burdens than users of the wired LAN. Furthermore, there is also another problem in that when using the wireless LAN or a packet module, the quality of information becomes worse and a transmission speed thereof becomes slower than that of the wired LAN.

'728 Patent at 2:1–14.

Prof. Cho's invention provides a specific roaming solution for off-loading by optimally switching the connection between different networks, an indoor network (Wi-Fi network) and outdoor wireless internet network (cellular network):

According to the present invention for accomplishing the aforementioned objects, network paths (i.e., connection paths of a communication network) capable of connecting with the internet, a PSTN, or the like are switched depending on whether a user is located indoors or outdoors. That is, **when the user is located indoors, a user's wireless internet terminal is connected with an indoor-wired LAN** through wireless communication module. Alternatively, **when the user is located outdoors, the user's wireless internet terminal is connected with an outdoor wireless internet network** (a network which can be wirelessly connected with the internet) such as a wireless LAN network and a wireless packet network. **Better communication quality with a lower cost is guaranteed to the user since the network connection can be switched in accordance with the location or movement of the user.** At this time, a roaming service is provided through an optimal network path depending on whether the user is located indoors or outdoors.

'728 Patent at 2:33–51 (emphasis added). Claim 1 of the '728 Patent is exemplary. In the claimed system, the data communication terminal, such as a smartphone, connects with and

switches in a seamless and uninterrupted manner between an indoor Wi-Fi network and outdoor cellular network. If the indoor Wi-Fi network is accessible, the data communication terminal connects with the indoor network. If the indoor network is not accessible, then the data communication terminal connects to the outdoor wireless internet network, such as a cellular network.

In short, the '728 Patent discloses a novel method to achieve seamless switching between dissimilar networks. Blackburn Decl. at ¶ 28. For example, if a user starts a call on an outdoor wireless internet network, and moves to an indoor network, the call seamlessly switches the connection to the indoor network. *See, e.g.*, '728 Patent at 13:60-65. The communication can therefore be off-loaded, for example, from a higher cost cellular network to a lower cost Wi-Fi network. *See, e.g.*, '728 Patent at 14:56-61 (“...there is an advantage in that the voice quality and the data processing speed of the internet communications can be improved and the usage cost can be reduced by switching the connection to an optimal communication network in accordance with the user's location when the user moves indoors or outdoors.”). This technique provides the mobile device the capability to operate in a wider coverage area, as well as to de-load the primary network and reduce congestion. Blackburn Decl. at ¶ 29. The inventions disclosed and claimed in the '728 Patent help telecommunication companies like T-Mobile to meet the needs of current customers, who require always on connection services that allow a device to move seamlessly between networks by reassigning the network connectivity of the mobile device. Blackburn Decl. at ¶ 28.

III. DISPUTED TERMS

A. Term 1: “indoor network”

KAIFI’s Proposed Construction	T-Mobile’s Proposed Construction
“a network that broadcasts system ID information able to be received within an interior of a structure.”	Plain and ordinary meaning

The Court construed the term “indoor network” in the AT&T Case. *See* AT&T Case, Dkt. No. 104 at p. 18. KAIFI proposes the identical construction.

T-Mobile takes the position that the term “indoor network” needs no construction and should be given its plain and ordinary meaning. However, the dispute over the construction of this term between KAIFI and AT&T, as well as the Court’s multiple pages of detailed analysis of “indoor network” in its Claim Construction Order in that case, suggest otherwise.

As noted in the Court’s prior claim construction analysis, the asserted claims include two different networks, an “indoor network” and an “outdoor wireless internet network,” where the “indoor network” is identified by or corresponds to the indoor system ID information broadcast by the indoor gateway. *See* AT&T Case, Dkt. No. 104 at p. 13; *see also* Blackburn Decl. at ¶ 37. The equipment or infrastructure components for the indoor network (*e.g.*, the indoor gateway) may be deployed exterior to a building, but provide network coverage to users inside the building. Blackburn Decl. at ¶ 40. An “indoor network” need not be based or restricted to the physical footprint of a home or building. *Id.*, citing the ’728 Patent at 4:64–5:8. As explained by the Court in the AT&T Case:

The Court’s construction does not limit the placement of the indoor gateway. Instead, it only requires that the indoor network broadcasts system ID information able to be received within an interior of a structure. In other words, the scope of the claims allow for equipment located exterior to a structure so long as the broadcast system ID information is able to be received within an interior of a structure.

AT&T Case, Dkt. No. 104 at p. 17.

The Court went on to explain that “[t]he specification discloses that one advantage of the disclosed system is that ‘the user can safely make a call by automatically providing the roaming service for changing a communication path from the indoor network to the outdoor wireless internet network.’” *See* AT&T Case, Dkt. No. 104 at p. 13, citing the ’728 Patent at 14:62–65. The specification is clear that the “indoor network” is a network that broadcasts system ID information able to be received within an interior of a structure. Blackburn Decl. at ¶ 41; *see also* AT&T Case, Dkt. No. 104 at p. 13. Therefore “[a] person of ordinary skill in the art would understand that the ‘indoor network’ is the network that broadcasts system ID information able to be received within an interior of a structure.” AT&T Case, Dkt. No. 104 at p. 13, citing the ’728 Patent at 13:41–43 (“Then, if the user moves outdoors, the PDA 10 cannot receive the indoor system ID information broadcasted from the indoor gateway 100 (step 538).”); *see also* Blackburn Decl. at ¶ 41.

T-Mobile, through its expert Mr. Rysavy, argues that the Court’s construction is wrong because it is “overinclusive” because “[p]ractically any network is ‘able to be received within an interior of a structure...,’ including 2G and 3G cellular networks. Hawkinson Declaration at ¶ 7, Ex. 1-F, Declaration of Peter Rysavy (“Rysavy Decl.”) at ¶ 52. Mr. Rysavy goes on to admit, however, that a person of ordinary skill in the art “would not have considered those [2G and 3G] networks to be ‘indoor networks’ in the context of the ’728 patent” and that an “indoor network” must “be one with a shorter broadcasting range that is meant for indoor structures.” Rysavy Decl. at ¶¶ 52, 53. KAIFI agrees that 2G and 3G networks are not “indoor networks,” but that has nothing to do with their broadcasting range. As the Court recognized, the “indoor network” and “outdoor network” can overlap in space, and therefore the defining characteristic of an “indoor network” is that it broadcasts system ID information that can be received in the interior of a

structure. *See* AT&T Case, Dkt. No. 104 at p. 15. Accordingly, notwithstanding the fact that 2G and 3G networks may overlap with the broadcast range of the “indoor network,” they cannot be “indoor networks” because they do not broadcast system ID information. Blackburn Decl. at ¶ 45. The Court’s proper construction leaves no room for the ambiguity suggested by Mr. Rysavy: regardless of the range of the networks, and regardless of whether the networks overlap, one can determine which is the “indoor network” by determining that it broadcasts system ID information and said broadcast can be received in the interior of a structure. T-Mobile’s contention that this term needs no construction would only invite the exact type of confusion posited by Mr. Rysavy.

Additionally, Mr. Rysavy’s assertion that an “indoor network” must have a short broadcasting range designed for indoor use is not factually correct. Rysavy Decl. at ¶ 53. The ’728 Patent provides as an example of an “indoor network” the case of an 802.11 wireless base station connected to ADSL. Blackburn Decl. at ¶ 46, citing the ’728 Patent at 6:6-28. At the time of the ’728 Patent, it was known that 802.11 networks had ranges into the hundreds of meters, which is not a “short” range. *Id.* (citing an 802.11 range of about 50-500 meters).

B. Term 2: “location register that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network”

KAIFI’s Proposed Construction	T-Mobile’s Proposed Construction
“location register” should be construed as “register that records the location of the data communication terminal.” The remainder of this term does not require construction.	“location register external to the data communication terminal that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network”

The Court construed the term “location register” in the AT&T Case. *See* AT&T Case, Dkt. No. 104 at p. 42. KAIFI proposes the identical construction. T-Mobile now seeks to narrow that construction by adding the additional – and unsupported – requirement that the location

register have a single physical location, and arbitrarily proposes that this single location be “external” to the data communication terminal (*e.g.*, external to a mobile phone). This results in an absurd construction precluding the mobile phone from storing and making available to the network information about its location in order to allow switching decisions to be made, which is the exact opposite of the purpose of the patent. *See, e.g.*, ’728 Patent at 10:5-10 (“The PDA 10 compares the received indoor system ID information with the stored indoor network ID information. If it is determined that the two pieces of ID information are identical to each other, the PDA 10 determines that the user has moved indoors. The location of the PDA 10 is registered into the location register 80...”).

1. Neither The Specification Nor The Claims Require A Location Register Be a Single Physical Structure

A review of the specification and the claims reveals no evidence suggesting that the location register is single physical location and therefore must be “external” to the data communication terminal. Blackburn Decl. at ¶ 54. Claim 1 itself does not specify which components of the system must be housed in the same physical device, but rather leaves open the possibility that one or more subparts of the system can be implemented as separate infrastructure elements or grouped together into one or more physical units. *Id.*

Figures 1-2 show an embodiment of the inventions in the ’728 Patent in which there is employed an “HA/FA Location Register.” HA/FA refer to “home agent” / “foreign agent.” T-Mobile’s expert admits that the home agent / foreign agent embodiment disclosed in the ’728 Patent is merely optional. *See* Rysavy Depo. at 44:1-17. But this embodiment confirms that the boxes and circles in Figures 1-2 are not intended to represent single physical structures. This is because the home agent and foreign agent, which are depicted in the figures as within one circle, are described in the specification as distinct software programs without reference to physical

location: “The location register 80 is the home agent HA or the foreign agent FA which operates in accordance with the mobile IP protocol and records a current location of a data communication subscriber.” ’728 Patent at 9:12-15. Because they are distinct software programs, they can run on any general purpose computer. *Id.* at ¶ 61, Ex. 2-G, Y. Mao, B. Knutsson, H. Lu, and J. Smith, “DHARMA: Distributed Home Agent for Robust Mobile Access,” in Proc of the IEEE Infocom 2005 Conference, March 2005 at 1197.

T-Mobile’s expert Mr. Rysavy references the IETF RFC 2002 “Mobile IP” specification in an attempt to support his opinion that the location register, at least when implemented as the home agent / foreign agent embodiment discussed in the ’728 Patent, must be external to the data communication terminal because the home agent / foreign agent are limited to “non-movable computers, including routers.” Rysavy Decl. at ¶ 47. RFC 2002 confirms just the opposite. The RFC 2002 document Dr. Rysavy relies on places no limits on where the home agent and foreign agent are physically located. Blackburn Decl. at ¶ 61; *see also* Hawkinson Decl. at ¶ 8, Ex. 1-G, IETF RFC 2002 at 10 (“Other placements of the home agent relative to the mobile node’s home location MAY also be possible using other mechanisms for intercepting datagrams destined to the mobile node’s home address. Such placements are beyond the scope of this document....Other placements of the foreign agent relative to the mobile node MAY also be possible using other mechanisms to exchange datagrams between these nodes, but such placements are beyond the scope of this document.”). At his deposition, Mr. Rysavy admitted that the RFC 2002 specification he relies on does not discuss the physical implementation of the home agent / foreign agent, meaning that those details are up to the implementor. *See, e.g.*, Rysavy Depo. at 48:3-24 (“In scanning through the [RFC 2002] specification I didn’t see a discussion of physical implementation of the function.”).

More importantly, at the time of the '728 Patent, the concept of distributed storage of data, as well as the distribution of network functions like the location register, across multiple physical locations was well known. Blackburn Decl. at ¶¶ 55-58, Ex. 2-F, M. Duser, E. Kozlovski, R. I. Killey, P. Bayvel, "Distributed Router Architecture For Packet Routed Optical Networks", Proc. 14th Working Conference on ONDM 2000, February 2000, pp. 202-221. There is nothing present in either the claims or the specification of the '728 Patent that forecloses the possibility of the functions of the location register being distributed across more than one network element, including potentially on a mobile handset. *Id.*

Ultimately, T-Mobile's expert makes clear that the only requirement for the location register is that it must be at a "known networking location" and that how many physical components host the registers "depends on the network":

- Q. I'm actually asking you a question. Does it – it needs to be in one physical location for a location register to be accessed across the network. Fair?
- A. What I said was that it needs to be a known networking location so that a query made to that networking location can obtain the information that it needs for the patent to function.

Rysavy Depo. at 42:23-43:5.

- Q. Yeah. I mean, what's the answer? Do you have an opinion or do you not have an opinion? Does it have to be one physical location? Yes or no?
- A. The simplest implementation would be on physical location, but, you know, it depends on – it depends on the network.

Rysavy Depo. at 42:7-12.

Mr. Rysavy further explained that such a "known networking location" does not require a single physical location:

Q. And a known networking location requires a single physical discrete location. Correct?

A. I don't agree with that statement.

Id. at 47:5-7. Finally, Mr. Rysavy admitted that the mobile terminal can be at a “known networking location.”:

Q. Okay. Let me ask you this question, is the location of a mobile terminal on a network known in the normal operation?

A. In some circumstances a network will know the location of a terminal.

Id. at 47:8-14. Accordingly, Mr. Rysavy's deposition testimony makes clear that the location register can be a distributed function. And that the required attribute of this function, that it be at a known network location, can be supplied by a mobile device.

Mr. Rysavy also testified that, the time of the '728 Patent, it was possible for mobile handsets to pass information to each other:

Q. At the time of the patent, did one mobile terminal have the ability to pass information to another mobile terminal?

A. At the time of the patent, a mobile terminal could for example using an application store information that another terminal could retrieve based on some application. So that information could be passed from one mobile to terminal to the other.

Rysavy Depo. at 100:21-101:4.

Mr. Rysavy's opinion that a person of ordinary skill in the art would understand that the location register is limited to a “centralized database” is another example of T-Mobile improperly attempting to limit the scope of the claims without any support from the intrinsic evidence. Rysavy Decl. at ¶ 45. There is nothing present in either the specification or the claims that requires the location register to be implemented as a “centralized database” – that phrase

does not even appear in the '728 Patent. Using a centralized database for a location register may be one implementation, but a person of ordinary skill in the art would understand that it is not the only way to implement a location register in general, and certainly not a limitation on the specific location register disclosed in and claimed by the '728 Patent. Blackburn Decl. at ¶ 64.

At deposition, Mr. Rysavy quickly abandoned the positions of T-Mobile's lawyers that he parroted in his declaration. He made clear that the "location register" was a "function" and that he had no opinion as to whether the claims limited this function to a particular physical implementation:

- Q. Is there anything in the patent that expressly and unambiguously states that the location register must be in a single physical location?
- A. The patent read as a whole describes the location register as being a node that performs specific function. And as I said in my declaration, that function needs to be known at a -- or that function needs to be in a known networking location....

Rysavy Depo. at 34:20-25.

- Q. And a known -- to be a known networking location, it must be a single physical location. Correct?
- A. It would depend on what you mean by "physical location."
- Q. I mean a single physical box.
- A. A single physical box would be the simplest implementation.
- Q. It's the only allowed implementation. Correct?
- A. I'm not sure what you mean by "allowed."
- Q. By the claims.
- A. I don't have an opinion on whether the claims -- how the claims allow the physical implementation.

Rysavy Depo. at 43:6-43:20.

Q. And you believe that limits it to one single physical location register?

A. I don't believe the patent discusses the exact implementation of the location register.

Q. Okay. And by implementation you mean physical implementation?

A. Correct.

Id. at 55:6-13.

Q. ...is it possible to have a distributed system in which the location register are at known locations even though they are distributed in different physical components?

A. That's a very complicated question, and there are a lot of different variables to consider, so at this time I don't have an opinion on that.

Id. at 54:10-16.

2. T-Mobile's Expert Misunderstands KAIFI's Proposed Construction

Mr. Rysavy appears to hold the mistaken opinion that, under KAIFI's proposed construction, the data communication terminal is coextensive with the location register. For example, Mr. Rysavy states:

- "I have not identified a single suggestion in the '728 Patent that a data communication terminal serves as the location register." Rysavy Decl. at ¶ 43.
- "If a data communication terminal were the claimed location register (i.e., if the location register were not part of a service provider's system), the system would not be able to provide the roaming service." Rysavy Decl. at ¶ 44.
- "A network design in which the data communication terminal was the location register would mean the network would consist of potentially thousands of databases

with location information, which would be inefficient and unworkable.” Rysavy Decl. at ¶ 48.

To be clear: KAIFI’s construction does not render the data communication terminal synonymous or coextensive with the location register. Blackburn Decl. at ¶ 59. Rather, consistent with the specification, KAIFI’s proposed construction recognizes that the network functionality and/or data storage associated with the location register function is not limited to any specific physical location. Put simply, the ’728 Patent is not about the physical implementation layer. *Id.*

3. A Mobile Terminal Must Determine Its Location In Relation To Other Network Elements

T-Mobile’s argument that the data communication terminal does not need to receive location information because “it is already aware of its own location” is wrong. A mobile terminal such as those at issue in the ’728 Patent must define its location with relation to other network elements, for example, a satellite, a Wi-Fi base station, or a cellular base station. Blackburn Decl. at ¶¶ 57, 62, Ex. 2-H, Swedberg, G. “Ericsson’s Mobile Location Solution,” Ericsson Review No. 4 (1999) (discussing determination of mobile device location by triangulation with either satellites or base stations). At his deposition, Mr. Rysavy discussed the ways in which mobile devices identify their location, all of which require interaction with outside objects. *See, e.g.*, Rysavy Depo. at 25:4-18; 89:4-90:3 (“The location information depends on what specific cellular technology is being used and the location information can also refer to different types of location information. For example, in some networks, the location information may be a distance from a cell tower. In some it might be triangulated data based on measurements from multiple cell towers. In some cases it might be GPS information generated by the mobile device and then sent to the network.”).

T-Mobile has failed to produce any evidence of any mobile terminal ever made that can simply report on its location without first determining that location with respect to other network elements. The idea that a terminal is simply going to transmit location information and have no role in storing that information has no connection to any known mobile terminal. Blackburn Decl. at ¶ 62.

At deposition, Mr. Rysavy once again abandoned the language in his declaration, making clear that he was “not offering any opinion as to the implementation of the location register and router functions.”:

Q. ...are you offering an opinion that the location register either must be or cannot be in the same physical box as the router?

A. As I said, I’m -- without reading the patent specifically with that question in mind, I can’t offer an opinion on that question.

Q. But are you offering that opinion?

A. I’m not offering any opinion as to the implementation of the location register and router functions.

Rysavy Depo. at 34:23-35:7.

C. Term 3: “registered indoor system ID information”

KAIFI’s Proposed Construction	T-Mobile’s Proposed Construction
“indoor system ID information for which the data communication terminal has been granted access”	No additional construction needed beyond construction of “indoor system ID information.”

In the AT&T Case the Court adopted the parties jointly proposed construction of the term “registered indoor system ID information” to mean “indoor system ID information for which the data communication terminal has been granted access.” *See* AT&T Case, Dkt. No. 104 at p. 7. T-Mobile now takes issue with the inclusion of the word “registered” in this term. However,

T-Mobile presents no evidence that the Court's prior construction of "registered indoor system ID information" is technically incorrect or inaccurately captures the inventions disclosed and claimed in the '728 Patent. Instead, T-Mobile offers the unsupported opinion of Mr. Rysavy, who claims that providing a construction for this term would be "confusing" to the jury. Rysavy Decl. at ¶ 55. Mr. Rysavy opines that because "registered" is a word that would be readily understood by a jury, a construction of this term is unnecessary. *Id.* at ¶¶ 57-58.

The suggestion that a lay jury will understand the meaning of the term registered is not credible. Despite being asked over thirty times at his deposition what the word "registered" means, Mr. Rysavy himself was not able to offer a definition of the term:

- Q. You believe that "registered" has a plain and ordinary meaning, is that correct, in the patent?
- A. I'm stating that the meaning of the word "registered" would be readily understood and that the patent uses it in a way that would be readily understood.
- Q. Right. And what is that readily understood meaning?
- A. The readily understood meaning is the meaning by which people would understand that term.
- Q. Right. And I'm asking what that is. When it says "registered indoor system ID information", what does a person ordinary of the skill in the art understand that to mean?
- A. The meaning is the one that would be commonly understood.
- Q. Right. And what is that commonly understood meaning?
- A. As I said, it's a commonly understood meaning, and I give examples of that in my declaration.
- Q. So -- and what is that -- in the patent, what is that readily and commonly understood meaning?
- A. The meaning as I said, is one that would be commonly understood.

Q. Yes. And what is that commonly understood meaning? That's what I'm asking you.

A. I don't think it's up to me to provide a dictionary definition of a common word.

Rysavy Depo. 71:8-72:16; *see generally* Rysavy Depo. at 70:14-81:3. Mr. Rysavy is an expert retained expressly for the purpose of providing opinions regarding the meanings of the terms in the claims of the '728 Patent. The fact that he could not offer an intelligible definition of the word "registered" is strong evidence in favor of construing this term to provide clarity to the jury.

Including the language "for which the data communication terminal has been granted access" in the construction provides that clarity and accurately reflects the understanding of a person of ordinary skill in the art. Blackburn Decl. at ¶¶ 72-77. The construction clearly states what it means for the indoor system ID information to be registered in the context of the '728 Patent. *Id.* The specification describes "registered indoor system ID information" as follows:

Accordingly, according to an aspect of the present invention for achieving the above objects, there is an optimal internet network connecting and roaming system providing internet communication service to a data communication terminal of a user moving indoors or outdoors, being characterized in that, **the data communication terminal includes an indoor wireless connection module and stores registered indoor system ID information, so that the data communication terminal may be connected with the indoor network if the registered indoor system ID information is received and may be connected with the outdoor wireless internet network if the registered indoor system ID information is not received**; the indoor gateway includes an indoor wireless connection module therein, broadcasts the indoor system ID information, makes wireless communications with the data communication terminal through the indoor wireless connection module, and is connected with the internet network via a wire; the location register stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network; and the router determines the location of the data communication terminal stored in the location register and provides roaming of voice/data signals transferred to the user by selecting one of the indoor and the outdoor networks in accordance with the determined location of the data communication terminal.

Blackburn Decl. at ¶ 75, citing '728 Patent at 3:23-47 (emphasis added).

As seen above, in one example shown in the specification, it is the registration data that allows the location register to determine a change in the user's location. Blackburn Decl. at ¶ 76. If the indoor system ID information has been "registered," that indoor system ID information can be used to allow the data communication terminal to connect with the indoor network that is uniquely identified by that indoor system ID information. In other words, the specification provides that by using "registered" or "registration" information, the data communication terminal can be permitted to access to a particular network. *Id.* The construction previously adopted by the Court and currently advanced by KAIFI makes clear that "registration data" means data reflecting the fact that the data communication terminal has been granted access to the indoor network.

D. Terms 4 and 5: "location information of the data communication terminal received through the indoor network" and "location information of the data communication terminal received through ... the outdoor wireless internet network"

	KAIFI's Proposed Construction	T-Mobile's Proposed Construction
"location information of the data communication terminal received through the indoor network"	"location information" should be construed as "information on a locational area or indoor system ID information or both."	"indoor system ID information"
"location information of the data communication terminal received through ... the outdoor wireless internet network"	The remainder of these terms do not require construction.	"locational area"

This Court previously construed the term "location information" to mean "information on a locational area or indoor system ID information or both." *See* AT&T Case, Dkt. No. 104 at p. 36. T-Mobile now seeks to break the construction of "location information" into two parts and improperly limit "location information" to "indoor system ID information" in one context and

“locational area” in another. Neither limitation is warranted in light of the disclosures in the specification.

It is worth noting that the constructions proposed by T-Mobile here are essentially the same as the construction proposed for “location information” by the T-Mobile attorneys in the AT&T Case: “information on a locational area when the data communication terminal is located outdoors, and indoor system ID information when the terminal is located indoors.” *See* AT&T Case, Dkt. No. 104 at p. 34. The Court rightly rejected this construction, and should reject T-Mobile’s construction for the same reasons. *Id.* at p. 36.

The specification describes different types of “location information” — information on a locational area and indoor system ID information. As the specification states, “[p]referably, the indoor location stored in the location register includes the indoor system ID.” ’728 Patent at 4:23-24. A person of ordinary skill in the art would therefore understand that this embodiment may store **both** the locational area and indoor system ID information. Blackburn Decl. at ¶ 86. As a practical matter, this means that for any data communication terminal that is located “indoors,” the location information may include the locational area in addition to the indoor system ID information. *Id.* Accordingly, T-Mobile’s proposed construction is improperly limiting and excludes the preferred embodiment in which both indoor system ID information and locational area are both stored. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (holding that construction that excludes preferred embodiment “is rarely, if ever correct”).

In support of its improper limitations, T-Mobile relies on the opinions of Mr. Rysavy, who states that “[w]hile the “location information” can be both locational area and indoor system ID information, the ’728 Patent requires specific location information in specific situations.” Rysavy Decl. at ¶ 33. Mr. Rysavy further opines that location information can only be locational

area when the data communication terminal is located outdoors and can only be indoor system ID information when the terminal is located indoors. *Id.* at ¶¶ 34-37. T-Mobile and the Rysavy Declaration ignore the embodiment discussed above in which both the locational area and indoor system ID information are stored. Blackburn Decl. at ¶¶ 86-92. However, at his deposition Mr. Rysavy admitted that both locational area and indoor system ID information *could* both be stored at the same time:

- Q. In the patent, the location register would only store indoor location information or outdoor location information. It won't store both at the same time. Correct?
- A. I don't believe the patent states that. It doesn't -- the patent does not preclude storing both.

Rysavy Depo. at 26:7-13.

T-Mobile also contends, via Mr. Rysavy, that their improper limiting construction is “necessary for the invention of the ’728 Patent to operate as intended.” Rysavy Decl. at ¶ 36. This is incorrect. There is no evidence in the specification suggesting that “locational area” and “indoor system ID information” must always be mutually exclusive. Blackburn Decl. at ¶ 91. The specification’s discussion of “location information” shows that it can be locational area, indoor system ID information, or both. *Id.* During the authentication process and before a switching action occurs, different types of location information could be stored in different registers and it is possible to have the locational area information as well as the system indoor ID information in the same register. *Id.* Contrary to Mr. Rysavy’s statement, in this embodiment the invention of the ’728 Patent will still function normally. *Id.* Such an embodiment may even result in certain advantages. Having different types of location information stored in different registers might allow for a faster authentication process which would provide a faster switching

mechanism. *Id.* For example, if a previous locational area or indoor system ID information had been authenticated, having the locational area information as well as the system. *Id.*

E. Term 6: “a fourth step of connecting with the internet network by switching connection of the data communication terminal from the outdoor wireless internet network to the indoor gateway and making wireless communications through the indoor gateway and an indoor wireless connection module”

The parties agree that, in terms of the meaning of the claim language of the fourth step in Claim 12, no construction is necessary. However, T-Mobile takes the position that “the fourth step is required to occur after and not before the third step,” imposing a specific ordering to the method steps in Claim 12. Joint Claim Construction and Prehearing Statement, Appendix 1, Dkt. 109-1 at p. 6. In terms of the ordering of method steps, the Federal Circuit has stated that “[u]nless the steps of a method actually recite an order, the steps are not ordinarily construed to require one.” *Interactive Gift Exp., Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1342 (Fed. Cir. 2001). Such is not the case here – where the ’728 Patent does not impose any specific order on steps three and four of Claim 12.

Claim 12 does expressly recite specific order for certain method steps when such an order is intended. For example, the third step expressly refers back to the second step:

a third step of going through authentication of an indoor location of the data communication terminal by the location register and storing the indoor location into the location register if it is determined **in the second step** that the two of ID information are equal to each other

’728 Patent, Cl. 12 (emphasis added). This express reference informs a person of ordinary skill in the art that what is being determined is whether the received indoor system ID information is equal to the stored indoor system ID information, and that determination occurred previously in the second step.

Unlike the express reference to the second step in step three, there is no express ordering of the third and fourth steps. The fourth step recites connecting with the internet by switching the

connection of the data communication terminal without any reference to events that occurred in the third step:

a fourth step of connecting with the internet network by switching connection of the data communication terminal from the outdoor wireless internet network to the indoor gateway and making wireless communications through the indoor gateway and an indoor wireless connection module,

'728 Patent, Cl. 12. Steps 3 and 4 contain a number of different events. For example, step 3 involves both an authentication event and a storing event. Step 4 involves both a switching of the connection event and an event in which wireless communications are made through the indoor network. There is nothing that prevents the events in step 4 occurring after the authentication in step 3 but before the storing in step 3. T-Mobile's attempt to place an absolute order on the different parts of steps 3 and 4 is not consistent with the claim language.

In its claim construction order in the AT&T Case, the Court focused on the authentication event of step 3, stating that "that before the data communication terminal can be connected with the internet network (*i.e.*, the fourth step) there must be an authentication of indoor location of the data communication terminal (*i.e.*, the third step). *See* AT&T Case, Dkt. No. 104 at p. 56. However, the Court did not address the issue of whether the other parts of step 3, namely the storing event, must occur before, after, or simultaneously with the various events listed in step 4. The claim language puts no limitation on the order of events in steps 3 and 4 that prevent the switching and making wireless communications events from occurring after authentication but before storage in step 3. Because there is no express limitation in the claim language relating to the ordering of elements in step 3 versus step 4, the issue of how these different elements work together is appropriately the subject of expert testimony at trial based on the specific system at issue, as recognized by the fact that the Court did not include its observation in the formal claim construction. *Id.*

F. Term 7: “a seventh step of switching the connection of the data communication terminal from the indoor gateway to the outdoor wireless internet network and performing the first step again”

As with the fourth step of Claim 12, the parties agree that, in terms of the meaning of the claim language of the seventh step in Claim 12, no construction is necessary. However, T-Mobile takes the position that “the seventh step is required to occur after and not before the sixth step,” once again imposing a specific ordering to the method steps in Claim 12 that is not supported by the claim language. Joint Claim Construction and Prehearing Statement, Appendix 1, Dkt. 109-1 at p. 7. While the seventh step does expressly reference performing the first step again, there is no express reference to events occurring in the sixth or any other step:

a seventh step of switching the connection of the data communication terminal from the indoor gateway to the outdoor wireless internet network and performing the first step again.

’728 Patent, Cl. 12. The seventh step recites switching the connection of data communication terminal from the indoor network to the outdoor wireless internet network. *Id.* The sixth step recites authentication of and storing outdoor location of the terminal. *Id.* The claim language includes no requirement that the seventh step must occur only upon completion of the sixth step and not before. Thus, T-Mobile’s proposal on the order of steps improperly imports an order when no such order is present in the claims themselves. *Interactive Gift*, 256 F.3d at 1342.

Just like steps 3 and 4, steps 6 and 7 internally define a number of events. For example, the sixth step describes an authentication event and a storing even, while step 7 describes a switching event and then performing step 1. There is nothing that prevents the switching in step 7 from occurring after the authentication event in step 6, but before the storing event in step 6.

IV. CONCLUSION

For the forgoing reasons, KAIFI respectfully requests that the Court adopt its proposed claim construction positions.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that the foregoing document was filed electronically on April 21, 2021 pursuant to Local Rule CV-5(a) and has been served on all counsel who have consented to electronic service.

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